

REMARKS

Summary of the Office Action and this Amendment

In paragraph 3 of the office action mailed 2/15/06, the examiner states:

Claim 4 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The limitation "performing at least a part of the task" of claim 4 is already claimed in the parent/independent claim 1. Therefore, the dependent claim 4 is not further limiting the independent claim 1.

In paragraph 4 of the office action the examiner states:

Claims 1-20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 1-20 are not limited to tangible embodiments. In view of applicants' disclosure, specification page 9, paragraph [0022], the signal bearing medium is not limited to tangible embodiments, instead being defined as including both tangible embodiments (e.g., disc or disk, for example, a CD-ROM, CD-R, CD-RW, WORM, DVD-R, DVD+R, DVD-RW, or DVD+RW, a "hard drive", a RAID array, a RAMAC, a magnetic data storage diskette (such as a floppy disk), magnetic tape, digital optical tape, RAM, ROM, EPROM, EEPROM, flash memory, programmable logic, any other type of firmware, magneto-optical storage, paper punch cards) and intangible embodiments (e.g. transmission media such as digital and/or analog communications links, which may be electrical, optical,

and/or wireless, a network transmission line, wireless transmission media, signals propagating through space, radio waves, and/or infrared signals). Claims 1-20 discloses "A signal bearing medium tangibly embodying a program of machine-readable instruction ...". As discussed above, the signal bearing medium can be intangible; and when it is intangible, the phrase "A signal bearing medium tangibly embodying a program of machine –readable instruction ..." also becomes intangible. As such, these claims are not limited to statutory subject matter and are therefore non-statutory.

In paragraph 5 of the office action the examiner states:

Claims 1-8 and 12-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Berkowitz et al. (USPN: 6,910,112) hereinafter, Berkowitz.

In paragraph 6 of the office action the examiner states:

Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berkowitz.

In this Amendment, the applicant has amended claims 1, 3-5, 7-8, 12-14, 17, 19-21, 23-27, and 29-30. Support for the amendments can be found, for example, in the drawings, in the originally filed claims, and in the specification from page 11, line 7, to page 17, line 4. No new matter has been added. Claims 1-30 are now pending in the application.

Objection to Claim 4

In this amendment the applicant has amended claim 4 such that the "performing at least a part of the task" wording has been deleted. Consequently, the applicant submits that claim 4 as amended herein is in proper dependent form, and that the objection to claim 4 should be withdrawn.

Claim Rejections - 35 U.S.C. 101

The applicant submits that, in claims 1-20 as originally filed, the "program of machine-readable instructions", as claimed, is embodied in a tangible medium, and consequently, the invention claimed in claims 1-20 as originally filed, is patentable subject matter under 35 U.S.C. Section 101. However, in the interest of advancing this application to allowance, in this amendment the applicant has amended independent claims 1 and 20, so that the preambles now recite, "A tangible signal bearing medium tangibly embodying a program of machine-readable instructions" These amendments to claims 1 and 20 have been made to make it more clear that the "program of machine-readable instructions", as claimed, is embodied in a tangible medium. Accordingly, the applicant respectfully submits that claims 1-20 are directed to statutory subject matter, and that the rejection of claims 1-20 under 35 U.S.C. 101 should be withdrawn.

Claim Rejections - 35 U.S.C. 102 and 35 U.S.C. 103

a. Legal Criteria for 35 U.S.C. 102

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently

described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). . . . "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

MPEP § 2131 (8th ed., rev. 4, Oct. 2005).

b. Legal Criteria for 35 U.S.C. 103

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

MPEP § 706.02(j) (8th ed., rev. 4, Oct. 2005).

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

MPEP § 2143.01 (8th ed., rev. 4, Oct. 2005) (emphasis in original).

When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to:

- (A) The claimed invention must be considered as a whole;
- (B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;
- (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and
- (D) Reasonable expectation of success is the standard with which obviousness is determined.

Hodosh v. Block Drug Co., Inc., 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986).

MPEP § 2141 (8th ed., rev. 4, Oct. 2005).

In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Schenck v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983).

MPEP § 2141.02 (8th ed., rev. 4, Oct. 2005).

c. Discussion Regarding the 35 U.S.C. 102 and 35 U.S.C. 103 Rejections

As mentioned above, in paragraph 5 of the office action the examiner states, "Claims 1-8 and 12-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Berkowitz et al. (USPN: 6,910,112) hereinafter, Berkowitz." Also, as mentioned above, in paragraph 6 of the office action the examiner states, "Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berkowitz."

The independent claims currently pending are claims 1, 20, 21, 26, and 27 as amended herein. The applicant submits that all of the independent claims as amended herein include limitations that are not described in Berkowitz, and that are not taught or suggested by Berkowitz.

Claim 1:

The applicant submits that claim 1 as amended herein, includes at least the following limitations that are not described in Berkowitz, and that are not taught or suggested by Berkowitz:

for each object identified in the first group, gathering, for at least one attribute, the a value of [[the]] an attribute [[for each]] corresponding with the object [[identified in the first list]], so each gathered attribute value is associated with a corresponding object identified in the first group;

storing, at a time t_1 , the first list that identifies the first group of objects, and the value of the attribute values gathered in the gathering operation, corresponding with each object in the first group of objects, to create a first snapshot of the first list that identifies the first group of objects and the [[gathered]] attribute [[values]] value corresponding with each object in the first group of objects;

after at least part of a task is performed, receiving a second list, that identifies objects that are in the group after at least part of a task is performed, wherein the second list identifies a second group of objects, and receiving, for each object identified in the

second group, and the value after at least part of the task is performed a value of the [[at least one]] attribute corresponding with the [[for each]] object [[identified in the second list]], so each received attribute value is associated with a corresponding object identified in the second group;

storing, at a time t_2 , the second list that identifies the second group of objects, and the [[received]] value of the attribute [[values,]] corresponding with each object in the second group of objects, to create a second snapshot of the second list that identifies the second group of objects and the [[received]] attribute [[values]] value corresponding with each object in the second group of objects; and

comparing the first snapshot with the second snapshot.

In column 1, lines 61-67, Berkowitz states:

The invention provides a mechanism for multiple applications to exchange information with the backup program regarding components of the applications. The information exchanged may include an identification of the components of each application. A component may be considered a group of files or resources that should be backed up or restored together.

In column 2, lines 7-27, Berkowitz states:

In one aspect of the invention, once a backup has been initiated, the backup program and the applications communicate through one or more communication documents. In particular, an application may create and provide to the backup program a metadata document that describes the components of the application. The metadata document includes information such as which files and resources are to be treated as a component, and may include additional information such as a special backup or restore order for

particular components, or information on how the data should be restored. With that information, the backup program proceeds to create a backup document that describes which components will be backed up during the backup operation. Then, prior to the actual backup procedure, the applications are given an opportunity to review the backup document and annotate the backup document with any information that may be helpful during a restore. Finally, the backup program performs the backup procedure. The backup program may return to the backup document and set flags indicating success for each of those components successfully backed up.

The applicant submits that these quoted portions of Berkowitz, and other portions of Berkowitz cited by the examiner, and Berkowitz in general, do not disclose, and do not teach or suggest, the limitations of claim 1 as amended herein, recited above.

For example, the metadata disclosed in Berkowitz in no way discloses, or teaches or suggests, the attribute values recited in the claims as amended herein. As a more specific example, Berkowitz (and particularly the metadata of Berkowitz), does not disclose, or teach or suggest the following claim limitations: "for each object identified in the first group, gathering a value of an attribute corresponding with the object, so each gathered attribute value is associated with a corresponding object identified in the first group", and "receiving, for each object identified in the second group, a value of the attribute corresponding with the object, so each received attribute value is associated with a corresponding object identified in the second group".

Further, Berkowitz does not disclose, or teach or suggest, "receiving a second list, wherein the second list identifies a second group of objects" as recited in claim 1 as amended herein.

Additionally, the "snapshot" of Berkowitz does not disclose, or teach or suggest the claimed snapshots. In this regard, in column 2, lines 47-49, Berkowitz states, "In particular, the backup program may initiate a backup operation by having a snapshot taken of the operative volume." In contrast, claim 1 as amended herein recites "storing,

at a time t_1 , the first list that identifies the first group of objects, and the value of the attribute corresponding with each object in the first group of objects, to create a first snapshot of the first list that identifies the first group of objects and the attribute value corresponding with each object in the first group of objects". In other words, Berkowitz discloses "having a snapshot taken of the operative volume", whereas claim 1 recites creating "a first snapshot of the first list that identifies the first group of objects and the attribute value corresponding with each object". Further, Berkowitz does not disclose, or teach or suggest creating a second snapshot, as recited in claim 1 as follows: "storing, at a time t_2 , the second list that identifies the second group of objects, and the value of the attribute corresponding with each object in the second group of objects, to create a second snapshot of the second list that identifies the second group of objects and the attribute value corresponding with each object in the second group of objects".

Claim 20:

For at least the reasons discussed above with regard to claim 1, the applicant submits that claim 20 as amended herein, includes at least the following limitations that are not described in Berkowitz. Further, Berkowitz does not describe the claimed timestamp values:

for each object identified in the first group, gathering, for at least one attribute, the value of the attribute for each object identified in the first list the timestamp corresponding with the object, so each gathered timestamp value is associated with a corresponding object identified in the first group;

storing, at a time t_1 , the first list that identifies the first group of objects, and the value of the timestamp attribute values gathered in the gathering operation, corresponding with each object in the first group of objects, to create a first snapshot of the first list that identifies the first group of objects and the gathered attribute values timestamp value corresponding with each object in the first group of objects;

...

after at least part of the task is performed, generating, a second list that identifies objects that are in the group after at least part of the task is performed, wherein the second list identifies a second group of objects, and receiving, for each object identified in the second group, a value of the timestamp corresponding with the object, so each received attribute value is associated with a corresponding object identified in the second group;

storing, at a time t_2 , the second list that identifies the second group of objects, and the gathered attribute values for each object identified in the second list value of the timestamp corresponding with each object in the second group of objects, to create a second snapshot of the second list that identifies the second group of objects and the gathered attribute values timestamp value corresponding with each object in the second group of objects;

determining if the first list identifies the same objects as the second list;

...

and if so, for each object identified in the first list, determining if the value of the at least one attribute for each object identified in the first list timestamp corresponding with the object is the same as the value of the at least one attribute for timestamp corresponding with the same object identified in the second list,

and if not, failing the task;

and if so, committing the task.

Claim 21:

For at least the reasons discussed above with regard to claim 1, the applicant submits that claim 21 as amended herein, includes at least the following limitations that are not described in Berkowitz:

a processing device coupled to the memory, wherein the processing device is programmed to perform operations for ensuring consistency of a group, the operations comprising:

...

for each object identified in the first group, gathering, for at least one attribute, the a value of [[the]] an attribute [[for each]] corresponding with the object [[identified in the first list]], so each gathered attribute value is associated with a corresponding object identified in the first group;

storing, at a time t_1 , the first list that identifies the first group of objects, and the value of the attribute values gathered in the gathering operation, corresponding with each object in the first group of objects, to create a first snapshot of the first list that identifies the first group of objects and the [[gathered]] attribute [[values]] value corresponding with each object in the first group of objects;

after at least part of a task is performed, receiving a second list, that identifies objects that are in the group after at least part of a task is performed, wherein the second list identifies a second group of objects, and receiving, for each object identified in the second group, and the value after at least part of the task is performed a value of the [[at least one]] attribute corresponding with the [[for each]] object [[identified in the second list]], so each received attribute value is associated with a corresponding object identified in the second group;

storing, at a time t_2 , the second list that identifies the second group of objects, and the [[received]] value of the attribute [[values,]] corresponding with each object in the second group of objects, to create a second snapshot of the second list that identifies the second group of objects and the [[received]] attribute

[[values]] value corresponding with each object in the second group of objects; and

comparing the first snapshot with the second snapshot.

Claim 26:

For at least the reasons discussed above with regard to claim 1, the applicant submits that claim 26 as amended herein, includes at least the following limitations that are not described in Berkowitz:

means for, for each object identified in the first group, gathering, for at least one attribute, the a value of [[the]] an attribute [[for each]] corresponding with the object [[identified in the first list]], so each gathered attribute value is associated with a corresponding object identified in the first group;

means for storing, at a time t_1 , the first list that identifies the first group of objects, and the value of the attribute values gathered in the gathering operation, corresponding with each object in the first group of objects, to create a first snapshot of the first list that identifies the first group of objects and the [[gathered]] attribute [[values]] value corresponding with each object in the first group of objects;

after at least part of a task is performed, means for receiving, a second list, that identifies objects that are in the group after at least part of a task is performed, wherein the second list identifies a second group of objects, and receiving, for each object identified in the second group, and the value after at least part of the task is performed a value of the [[at least one]] attribute corresponding with the [[for each]] object [[identified in the second list]], so each received attribute value is associated with a corresponding object identified in the second group;

means for storing, at a time t_2 , the second list that identifies the second group of objects, and the [[received]] value of the

attribute [[values,]] corresponding with each object in the second group of objects, to create a second snapshot of the second list that identifies the second group of objects and the [[received]] attribute [[values]] value corresponding with each object in the second group of objects; and

means for comparing the first snapshot with the second snapshot.

Claim 27:

For at least the reasons discussed above with regard to claim 1, the applicant submits that claim 27 as amended herein, includes at least the following limitations that are not described in Berkowitz:

for each object identified in the first group, gathering, for at least one attribute, the a value of [[the]] an attribute [[for each]] corresponding with the object [[identified in the first list]], so each gathered attribute value is associated with a corresponding object identified in the first group;

storing, at a time t_1 , the first list that identifies the first group of objects, and the value of the attribute values gathered in the gathering operation, corresponding with each object in the first group of objects, to create a first snapshot of the first list that identifies the first group of objects and the [[gathered]] attribute [[values]] value corresponding with each object in the first group of objects;

after at least part of a task is performed, receiving a second list, that identifies objects that are in the group after at least part of a task is performed, wherein the second list identifies a second group of objects, and receiving, for each object identified in the second group, and the value after at least part of the task is performed a value of the [[at least one]] attribute corresponding with the [[for each]] object [[identified in the second list]], so each

received attribute value is associated with a corresponding object identified in the second group;

storing, at a time t_2 , the second list that identifies the second group of objects, and the [[received]] value of the attribute [[values,]] corresponding with each object in the second group of objects, to create a second snapshot of the second list that identifies the second group of objects and the [[received]] attribute [[values]] value corresponding with each object in the second group of objects; and

comparing the first snapshot with the second snapshot.

In view of the discussion above, the applicant submits that the independent claims as presented herein are not anticipated by Berkowitz, because each and every element as set forth in the claims is not found, either expressly or inherently described in Berkowitz. In summary, the applicant submits that Berkowitz does not describe each and every element set forth in claims 1, 20, 21, 26, and 27, and therefore, the rejections of those claims should be withdrawn. Further, the applicant submits that claims 9-11, which are dependent upon claim 1, and which were rejected under 35 U.S.C. 103(a) as being unpatentable over Berkowitz, are novel and nonobvious for at least the reasons discussed above with regard to claim 1.

Amendments, and Dependent Claims in General

The applicant submits that all of the dependent claims are novel and nonobvious for at least the reasons discussed above with regard to the independent claims. Some of the claim amendments in this amendment were made to clarify the wording and to correct typographical errors.

In paragraph 6 of the office action, with regard to claim 9, the examiner states,

However, it was well-known and notorious old in the art at the time of current invention was made that whenever the backup procedure fails to backup some of the components, the backup procedure rolling back at least one commit by the server (i.e. backing up the failed component again). In doing so, whenever the backup procedure fails to backup some of the components, there is no need to repeat the backup procedure for whole list again and as a result of it, both the time to backup and resources are saved. The Examiner herein taking Official Notice on this subject matter.

The applicant respectfully submits that the noticed fact was not common knowledge or well-known in the art, at the time of the invention. Accordingly, the applicant requests that the examiner provide documentary evidence.

Conclusion

In summary, the applicant respectfully submits that the claims as presented herein are directed to statutory subject matter, and are novel and nonobvious in view of the cited references. In conclusion, the applicant respectfully submits that the application is in condition for allowance, and applicant requests reconsideration and further examination, and allowance of the application. Any additional fees required in connection with this amendment that are not specifically provided for herewith are authorized to be charged to Deposit Account No. 09-0466 in the name of International Business Machines Corporation.

Respectfully submitted,



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